In the Claims

Please amend the following claims as follows:

by tacticity and sequence distribution, of a polymer formed by a free radical polymerization process and displaying a molecular weight distribution of less than 2.0 and calculable number average molecular weight, having the formula:

 $R^{11}R^{12}R^{13}C-(M^{1})_{p}-X,$ $R^{11}R^{12}R^{13}C-(M^{1})_{\rho}-(M^{2})_{p}-X,$ $R^{11}R^{12}R^{13}C-(M^{1})_{p}-(M^{2})_{p}-(M^{3})_{\rho}-X, \text{ or }$ $R^{11}R^{12}R^{13}C-(M^{1})_{\rho}-(M^{2})_{\rho}-(M^{3})_{\rho}-...-(M^{4})_{p}-X$

wherein X is selected from the group consisting of CI, Br, I, OR^{10} , SR^{14} , SeR^{14} , $O-N(R^{14})_2$, S-C(=S)N(R¹⁴)₂, H, OH, N₈, NH₂, COOH and CONH₂ and groups that can be formed therefrom by conventional chemical processes, where

 R^{10} is an alkyl of from 1 to 20 carbon atoms in which each of the hydrogen atoms may be independently replaced by halide, R^{14} is anyl or a straight or branched C_1 - C_{20} alkyl group, and where an $N(R^{14})_2$ group is present, the two R^{14} groups may be joined to form a 5- or 6-membered heterocyclic ring,

 R^{11} , R^{12} and R^{13} are each independently selected from the group consisting of H, halogen, C_1 - C_{20} alkyl, C_3 - C_8 cycloa kyl, $C(=Y)R^5$, $C(=Y)NR^6R^7$, COCI, OH, CN, C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl oxiranyl, glycidyl, aryl, heterocyclyl, aralkyl, aralkenyl, C_1 - C_6 alkyl in which from 1 to all of the hydrogen atoms are replaced with halogen and C_1 - C_6 alkyl substituted with from 1 to 3 substituents selected from the group consisting of C_1 - C_4 alkoxy, aryl, heterocyclyl, $C(=Y)R^5$, $C(=Y)NR^6R^7$, oxiranyl and glycidyl,

where Y is NR⁸, S or O;

PI - 543833.1

where R⁵ is an aryl or an alkyl of from 1 to 20 carbon atoms, alkoxy of from 1 to 20 carbon atoms, aryloxy or heterocyclyloxy; and R⁶ and R⁷ are independently H or alkyl of from 1 to 20 carbon atoms, or R⁶ and R⁷ may be joined together to form an alkylene group of from 2 to 5 carbon atoms, thus forming a 3- to 6-membered ring, such that no more than two of R¹¹, R¹² and R¹³ are H, and R⁶ is H, a straight or branched C₁-C₂₀ alkyl or aryl, and

M¹, M², M³,... up to M¹ are each monomer units derived from radically (co)polymerizable monomer selected such that the monomers units in adjacent blocks are not identical, and t is an integer greater than 3; p for each block is independently selected such that the number average molecular weight of each block is up to 250,000 g/[mel]mol;

the following formulas:

$$\begin{array}{c} X-(M^1)_p - (R^{12}R^{13}C) - (R^{11}) - (M^1)_p - X, \\ X-(M^2)_p - (M^1)_p - (R^{12}R^{13}C) - (R^{11}) - (M^1)_p - (M^2)_p - X, \\ X-(M^3)_p - (M^2)_p - (M^1)_p - (R^{12}R^{13}C) - (R^{11}) - (M^1)_p - (M^2)_p - (M^3)_p - X, \text{ or } \\ X-(M^1)_p - ... - (M^3)_p - (M^2)_p - (M^1)_p - (R^{12}R^{13}C) - (R^{11}) - (M^1)_p - (M^2)_p - (M^3)_p - ... - (M^1)_p - X, \end{array}$$

wherein R¹¹, R¹², R¹³, X, M¹, M², M³,... up to M^t, t, and p are as defined above, with the provisio that R¹¹ has a polymer chain as indicated attached thereto;

of the formulas:

$$\begin{split} R^{11}R^{12}R^{13}C - (M^{1}-M^{2})_{p} - (M^{2}-M^{1})_{p} - (M^{1}-M^{2})_{p} - ... - (M^{v}-M^{v})_{p} - X, \\ R^{11}R^{12}R^{13}C - \{(M^{1}-M^{2})_{p} - (M^{2}-M^{1})_{p} - (M^{1}-M^{2})_{p} - ... - (M^{v}-M^{v})_{p} - X\}_{z}, \\ R^{11}R^{12}R^{13}C - (M^{1}-M^{2}-M^{3})_{p} - (M^{3}-M^{2}-M^{1})_{p} - (M^{1}-M^{2}-M^{3})_{p} - ... - (M^{v}-M^{v})_{p} - X, \text{ or } \\ (R^{11}R^{12}R^{13}C) - \{(M^{1}-M^{2}-M^{3})_{p} - (M^{3}-M^{2}-M^{1})_{p} - (M^{1}-M^{2}-M^{3})_{p} - ... - (M^{v}-M^{v}-M^{v})_{p} - X\}_{z}, \end{split}$$

wherein z is from 2 to 6, R^{11} , R^{12} , R^{13} and X are as defined above, and where R^{11} , R^{12} and R^{13} are the same as R^{11} , R^{12} and R^{13} [, z is from 2 to 6,] with the proviso that R^{11} , R^{12} and R^{13} = 1.543833.1

R^{13'} combined have from 1 to 5 of the polymer chains enclosed in brackets attached thereto and the C has only one of the polymer chains enclosed in brackets attached thereto,

 M^1 , M^2 and M^3 are monomer units derived from different radically-(co)polymerizable monomers, and M^u is one of M^1 or M^2 or M^3 and M^v is another of M^1 or M^2 or M^3 , and M^v is the third (co)monomer,

p for each block is independently selected such that the number average molecular weight of the copolymer is up to 1,000,000 g/mol; and,

(co)polymers of this topology comprising four or more comonomers, and.

of the formulas:

 $(R^{11} R^{12} R^{13} C) - \{(M^{1})_{p} - X\}_{z,}$ $(R^{11} R^{12} R^{13} C) - \{(M^{1})_{p} - (M^{2})_{p} - X\}_{z,}$ $(R^{11} R^{12} R^{13} C) - \{(M^{1})_{p} - (M^{2})_{p} - (M^{3})_{p} - X\}_{z,} \text{ or }$ $(R^{11} R^{12} R^{13} C) - \{(M^{1})_{p} - (M^{2})_{p} - (M^{2})_{p} - \dots - (M^{t})_{p} - X\}_{z}$

wherein z is from 3 to 6; R¹¹/R¹² and R¹³ are the same as R¹¹, R¹² and R¹³ with the proviso that R¹¹, R¹² and R¹³ combined contain from 2 to 5 of the polymer chains enclosed in brackets attached thereto and the C has only one of the polymer chains enclosed in [square] brackets attached thereto, where X is as defined above;

M¹, M², M³, ... M¹ p, and t are as defined above; and and copolymers comprising a block or graft with the above composition; and of the formula:

 $R^{11}R^{12}R^{13}C-(M^{1}_{a}M^{2}_{b})-(M^{1}_{c}M^{2}_{d})-(M^{1}_{e}M^{2}_{f})-...-(M^{1}_{g}M^{2}_{h})-(M^{1}_{i}M^{2}_{j})-X, \text{ or }$ $R^{11}R^{12}R^{13}C-(M^{1}_{g}M^{2}_{b})-(M^{1}_{c}M^{2}_{d})-(M^{1}_{g}M^{2}_{f})-...-(M^{1}_{g}M^{2}_{h})-(M^{1}_{i}M^{2}_{j})-X\}_{z}$

where z is from 2 to 6, R¹¹, R¹², R¹³ are as defined above, M¹ and M² are as defined above and where R¹¹, R¹² and R¹³ are the same as R¹¹, R¹² and R¹³ with the proviso that R¹¹, R¹² and R¹³ combined have from 1 to 5 of the polymer chains enclosed in brackets attached thereto and the PI - 543833.1

C has only one of the polymer chains enclosed in [square] brackets attached thereto, and

a, b, c, d, e, f,... up to i and j are non-negative numbers independently selected such that a+b=c+d=100[%], and any or all of (e+f), (g+h) and (i+j)=100[%] or 0, wherein the a:b ratio is from 100:0 to 0:100, the c:d ratio is from 95:5 to 5:95, such that c < a and d > b, and where applicable, the e:f ratio is from 90:10 to 10:90, such that e < c and e < c and the endpoints of the molar ratio ranges of first monomer to second monomer in successive blocks progressively decrease or increase by 5 such that the e:f ratio is from 5:95 to 95:5, such that $e \ne c$ and $e \ne d$, and the i:j ratio is from 0:100 to 100:0, such that $e \ne d$ and $e \ne d$.

65. (Amended) The (co)polymer of Claim [37] 64, having a formula:

 $R^{11}R^{12}R^{13}C-(M^{1}-M^{2})_{p}-(M^{2}-M^{1})_{p}-(M^{1}-M^{2})_{[r]_{2}}-...-(M^{\prime}-M^{\prime})_{[s]_{p}}-X,$ $(R^{11}'R^{12}'R^{13}'C)-\{(M^{1}-M^{2})_{p}-(M^{2}-M^{1})_{p}-(M^{1}-M^{2})_{p}-...-(M^{\prime}-M^{\prime})_{p}-X\}_{z},$ $R^{11}R^{12}R^{13}C-(M^{1}-M^{2}-M^{3})_{p}-(M^{3}-M^{2}-M^{1})_{p}-(M^{1}-M^{2}-M^{3})_{p}-...-(M^{\prime}-M^{\prime}-M^{\prime})_{p}-X, \text{ or }$ $(R^{11}'R^{12}R^{13}'C)-\{(M^{1}-M^{2}-M^{3})_{p}-(M^{3}-M^{2}-M^{1})_{p}-(M^{1}-M^{2}-M^{3})_{p}-...-(M^{\prime}-M^{\prime}-M^{\prime})_{p}-X\}_{z}$

wherein z is 2 to 6;

PI - 543833.1

wherein R¹¹, R¹², R¹³ and X are as previously defined, and where R¹¹, R¹² and R¹³ are the same as R¹¹, R¹² and R¹³, with the previso that R¹¹, R¹² and R¹³ combined have from 1 to 5 of the polymer chains enclosed in [square] brackets attached thereto and the C has only one of the polymer chains enclosed in [square] brackets attached thereto:

M¹, M² and M³ are monomer units derived from different radically-polymerizable or copolymerizable monomers, and M^u is one of M¹, M² or M³ and M^v is another of M¹, M² or M³, and M^v is the third (co)monomer.

p for each block is independently selected such that the number average molecular weight of the copolymer is from 1,000 to 1,000,000 g/mol; and

Show which

(co)polymers of this topology comprising four or more comonomers

18 66.

(Amended) The (co)polymer of Claim [37] 64, having a formula:

(R11'R12'R13'C)-{(M1)p-X}z,

 $(R^{11}R^{12}R^{13}C)-\{(M^1)_{a}-(M^2)_{a}-X\}_{a}$

 $(R^{11}'R^{12}'R^{13}'C)-\{(M^1)_p-(M^2)_p-(M^3)_p-X\}_2$, or

 $(R^{11}'R^{12}'R^{13}'C)-\{(M^1)_p-(M^2)_p-(M^3)_p-...-(M^t)_p-X\}_z$

where R¹¹, R¹² and R¹³ are the same as R¹¹, R¹² and R¹³ as previously defined, with the proviso that R¹¹, R¹² and R¹³ combined contain from 2 to 5 of the polymer chains enclosed in brackets attached thereto and the C has only one of the polymer chains enclosed in [square] brackets attached thereto, where X is as defined above;

M¹, M², M³, M¹, p and are as defined above.

z is from 3 to 6, and copolymers comprising a block or graft with the above composition.

19 *sh*.

(Amended) The (co)polymer of Claim [37] 64, having the formulae:

 $R^{11}R^{12}R^{13}C - (M_{a}^{1}M_{b}^{2}) - (M_{c}^{1}M_{d}^{2}) - (M_{e}^{1}M_{f}^{2}) - \dots - (M_{g}^{1}M_{h}^{2}) - (M_{i}^{1}M_{j}^{2}) - X, \text{ or }$ $(R^{11}R^{12}R^{13}C) - ((M_{a}^{1}M_{b}^{2}) - ((M_{c}^{1}M_{d}^{2}) - ((M_{e}^{1}M_{d}^{2}) - \dots - ((M_{g}^{1}M_{h}^{2}) - ((M_{i}^{1}M_{i}^{2}) - X)_{z})$

where R¹¹, R¹², R¹³, and X are as previously defined, and where R¹¹, R¹² and R¹³ are the same as R¹¹, R¹² and R¹³ with the proviso that R¹¹, R¹² and R¹³ combined have from 1 to 5 of the polymer chains enclosed in [square] brackets attached thereto and the C has only one of the polymer chains enclosed in [square] brackets attached thereto,

M¹ and M² are monomer units derived from different radically (co)polymerizable

Y cm